



# NASA News

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## INFRARED TELESCOPE BEGINS OPERATIONS IN HAWAII

Using NASA's new Infrared Telescope Facility on lofty Mauna Kea in Hawaii, astronomers have begun making observations of Jupiter in support of the Voyager program.

The 3-meter (120-inch) diameter telescope -- one of the largest of its kind -- achieved "first light" early this month (May 2); that is, the first successful optical imaging of the telescope and operation of associated equipment.

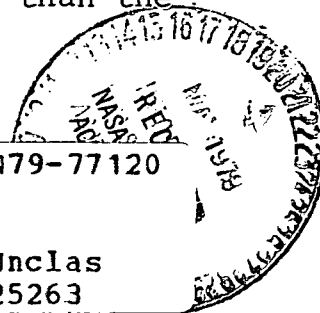
First data returned in support of Voyager 2, scheduled to encounter Jupiter in July, concentrated on Jupiter's "hot spots" -- regions much hotter than the surrounding area.

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Scientists believe these hot spots -- in the 5-micron region of the infrared spectrum -- represent breaks in the thick upper clouds which perpetually swirl around the giant planet.

The interferometer-infrared spectrometer aboard Voyager will examine the hot spots during the Jovian encounter. However, the location of these regions cannot be determined from the spacecraft. Ground-based telescopes locate the 5-micron regions and provide the information to the Voyager team for incorporation into the final encounter sequence for the spectrometer.

The Infrared Telescope Facility will be used primarily to provide supporting and complementary data to NASA's planetary exploration programs.

The facility also will provide a capability for ground-based observations of astronomical objects -- such as interstellar dust, exploding galaxies and galactic nuclei -- in the middle and far infrared portion of the electromagnetic spectrum.

The infrared region is one of the least-explored regions of the spectrum of light originating in the cosmos, primarily because very little of its radiation penetrates our thick atmosphere. But it has become clear in recent years that observation at infrared wavelengths is the key to many astronomical mysteries.

Mauna Kea, nearly 14,000 feet above sea level, is Hawaii's highest mountain and the world's tallest island mountain. It was chosen as the site for the infrared Telescope Facility because of its exceptional qualities for infrared astronomy. Construction of the telescope facility began two years ago. Operated for NASA by the Institute for Astronomy of the University of Hawaii, the facility will be fully operational by the end of the year.

Besides the Jupiter observations, the telescope is expected to provide support for the two coming Voyager missions to Saturn. Voyager 1 will encounter the ringed planet in November 1980. Voyager 2 will fly past Saturn in August, 1981.

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